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# **Chapter 25 - DNA Replication**

1 message

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Mon, Nov 14, 2016 at 5:00 PM

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# **Chapter 25 - DNA Replication**

November 7

Your email address (grossoehmen2@mailbox.winthrop.edu) was recorded when you submitted this form.

# What is meant by semiconservative replication?

each product of replication has one old copy and one new copy of DNA

DNA replication is	on the lagging strand
continuous	
discontinuous	
What role does primase play in	DNA replication?
synthesizes the RNA primer on the	ne lagging strand

# What is "exonuclease activity"?

an active site that catalyzes the hydrolysis of the 5' or 3' end nucleotide of a DNA strand

What metal ion is required for DNA Polymerase activity?	
Mg2+	
E. coli contains three DNA Polymerases. Which of these contain 5'>	·3' exonuclease activity?
check all that apply	
✓ Pol I	
Pol II	
Pol III	
Which enzyme is the primary replicase in E. coli?	
O Pol I	
O Pol II	
Pol III	
Helicases require energy to unwind DNA	
True	
False	
What role does DNA Ligase have in replication?	
fuses together the Okazaki fragments	

Your book discusses four important strategies that organisms use to ensure replication accuracy. Briefly summarize these four strategies.

cells maintain balanced levels of dNTPs, high fidelity polymerases are highly selective in the incoming dNTP, 3'-5' exonuclease activity allows mistakes to be corrected, and there are several enzyme systems that come after replication that can fix mistakes

### What are telomeres?

The ends of eukaryotic chromosomes that are repeats of G-rich sequences - these telomeres stack on top of each other and base pair using non-WC H-bonding

xposure to UV radiation forms dimers between adjacent	bases.
○ A	
G	
ОС	
● T	
Other:	
What is the difference between point mutations and insertion/delo	etion mutations?
point mutations are one mistake on a DNA moleucle resulting in a mismatch - I/D mutations are where one or more nucleotide has beer added or removed.	n
mismatch - I/D mutations are where one or more nucleotide has been	n
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